Ann. Natal Mus. Vol. 25(2) Pages 413–430 Pietermaritzburg October, 1983

Afrotropical Asilidae (Diptera) 8. The genus Stiphrolamyra Engel, 1928, in southern Africa (Laphriinae: Laphriini)

by

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SYNOPSIS

The southern African species of *Stiphrolamyra* are reviewed. The three species previously known to occur in southern Africa (*S. angularis*, *S. bipunctata* and *S. diaxantha*) are redescribed using newly collected material, and a further four new species are described—*S. annae* (northern Cape Province of South Africa), *S. hermanni* (Cape Province and Orange Free State), *S. schoemani* (northern Cape Province) and *S. vincenti* (northern Cape Province and Botswana). A key to these species is given and the other three Afrotropical species *(S. albibarbis, S. apicalis* and *S. comans)* are briefly discussed.

INTRODUCTION

This paper was stimulated by the results of a recent expedition to the northern Cape Province of South Africa. No fewer than fifty-one specimens of *Stiphrolamyra* were collected. The Natal Museum's collection, which contained thirty-four specimens prior to the trip, was therefore substantially increased. Two of the three southern African species, as listed by Oldroyd (1974, 1980), were collected, together with good series of two interesting new species. Subsequent work revealed yet another two undescribed species in the southern African fauna.

MATERIAL AND METHODS

The material studied is housed in three South African museums, the Natal Museum (NM), the South African Museum (SAM) and the National Collection of Insects, Pretoria (NCI). In addition, Mr John Chainey, British Museum (Natural History) (BMNH), has given me a list of their holdings. Other major museums in southern Africa do not possess specimens of *Stiphrolamyra*. The localities at which specimens were collected have in most instances been traced in gazetteers and I have given the quarter-degree reference code (in brackets after the locality) for each place, in the manner described by Leistner & Morris (1976). In previous papers I have adopted the descriptive terminology used by Harold Oldroyd in his work on the Afrotropical Asilidae. McAlpine (1981) has, however, attempted to provide dipterists with a standard terminology and so I have decided to use this. Genitalia were in all cases dissected from specimens, cleared in hot KOH and drawn with the aid of a camera lucida. Wing length was measured from the humeral cross-vein to the wing tip, while the breadth was measured through the first fork of the radial sector.

Genus *Stiphrolamyra* Engel, 1928

Stiphrolamyra Engel, 1928: 321. Type-species: *Lamyra bipunctata* Loew, 1858, by original designation.

Stiphrolamyra is a very distinctive genus of the Laphriini, its nearest relative being the equally distinctive genus *Lamyra* Loew. The lower occiput possesses a backwardly projecting flange (well illustrated by Efflatoun, 1934 fig. 130) in both these genera; *Lamyra* has extremely elongated legs and abdomen whereas *Stiphrolamyra* is normally proportioned (Fig. 1) and looks very similar to the genus *Choerades* Walker.

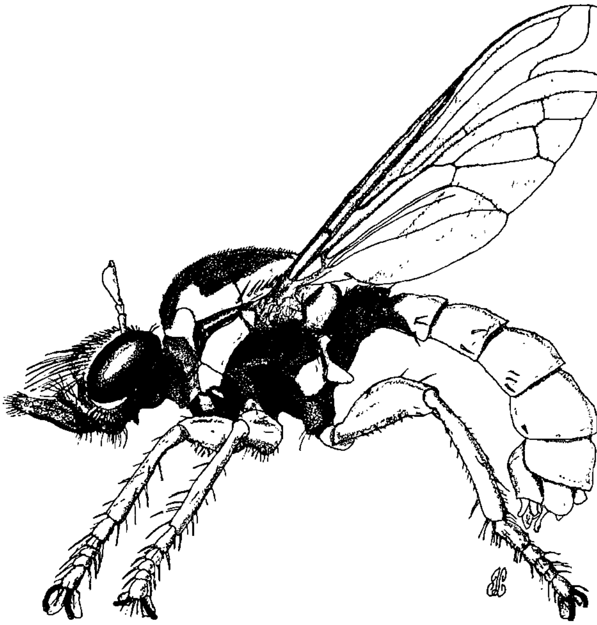


Fig. 1. Lateral aspect of *Stiphrolamyra angularis* (Loew).

Key to the southern African species of *Stiphrolamyra* (adults)

1 Abdominal terga broadly orange medially with blackish lateral margins; antennae dark brownish 2
– Abdominal terga blue-black or orange; antennae usually orange 4
2 Third antennal segment at least three times as long as segments 1 and 2 combined; ♂ genitalia as in Figs 32–33 .... **vincenti** sp. n.
– Third antennal segment only about twice as long as segments 1 and 2 combined 3
3 Katatergite with mainly black or dark red-brown bristles; face and postpronotal lobe largely reddish or orange in colour; ♂ genitalia as in Figs 22–23 ..... **hermanni** sp. n.
– Katatergite with yellow or white bristles; face and postpronotal lobe largely blackish; ♂ genitalia as in Figs 17–18 .... **diaxantha** (Hermann)

4 Abdominal terga entirely lacking lateral patches of pruinescence; discal bristles black; katatergite with black bristles 5

– Abdominal terga 2–3 (occasionally 4) with lateral patches of silver pruinescence; discal bristles orange or white; katatergite with yellow, white or brown-orange bristles 6

5 Fore coxa with black setae anteriorly; abdominal terga uniformly blue-black; face yellow-brown; mystax white; ♂ genitalia as in Figs 27–28 .... **schoemani** sp. n.

– Fore coxa with white setae anteriorly; abdominal terga 2–4 each with an oval, orange, gold pruinose area medially; face dark red-brown; mystax largely black; ♂ genitalia as in Figs 7–8 .... **annae** sp. n.

6 A large species (wing length > 10 mm); abdominal terga shiny blue-black in both sexes; mesonotum grey pruinose with two black spots behind transverse suture; ♂ genitalia as in Figs 12–13 .... **bipunctata** (Loew)

– A smaller species (wing length < 10 mm); ♂ with orange abdominal terga while ♀ has blue-black terga; mesonotum shiny and lacking black spots behind transverse suture; ♂ genitalia as in Figs 2–3 .... **angularis** (Loew)

Stiphrolamyra angularis (Loew, 1858) Figs 1–6

Lamyra angularis Loew, 1858: 338; 1860: 188.
Lamyra versicolor Ricardo, 1925: 277; Hull, 1962: 367
Lamyra rubra Bromley, 1935: 413.
Stiphrolamyra angularis; Hull, 1962: 369; Oldroyd, 1974: 116; 1980: 355.

Redescription: Based primarily on fresh northern Cape Province material but supplemented with information taken from all other specimens examined.

Head: Antennae orange, fine gold pruinose, segments 1 and 2 with yellow-white bristles and setae. Face yellow; gena shiny dark red-brown, a strip of shiny silver pruinescence below eye. Mystax pale yellow. Vertex shiny blackish. Ocellarium with a pair of well-developed yellow ocellar setae. Occiput black with silver pruinescence along eye margins and a small spot of silver pruinescence on each side of neck. Postocular setae orange; setae of lower occiput white. Proboscis shiny dark red-brown. Palp dark red-brown with bristles and setae orange except for those proximally which are whitish.

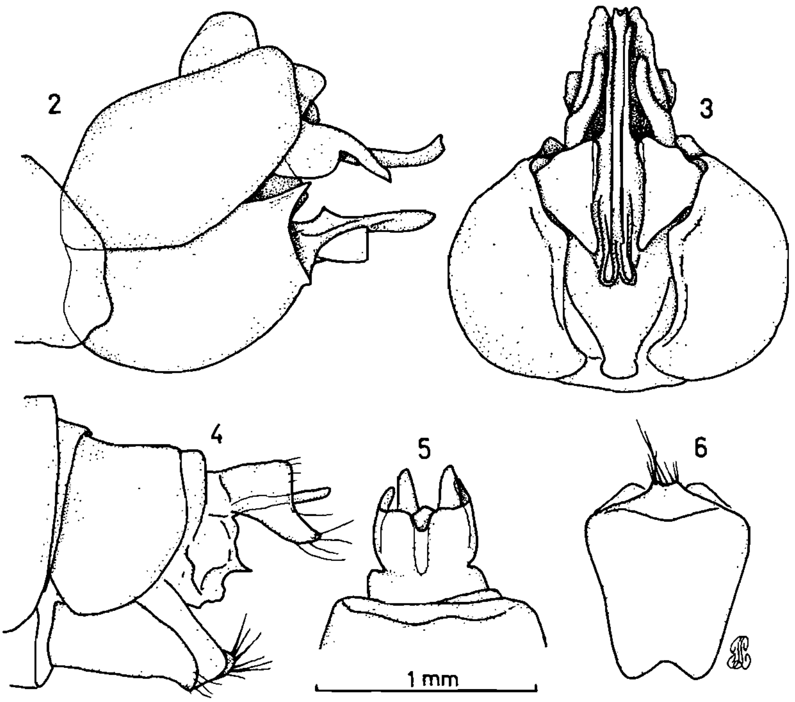
Thorax: Pleura blackish, a strong silver pruinose stripe from fore-coxa to wing base and metanepisternum strongly silver pruinose. Katatergite with about 15 well-developed yellow bristles. Upper hind margin of anepisternum with 2 bristles. Other pleura with fine whitish setae only. Anatergite orange and lacking setae. Mesonotum shiny orange with a large shiny black clover-leaf shaped central marking; setae short shiny yellow. 1 notopleural bristle, 6 supra-alars, 1 postalar, all orange-brown. Dorsocentral setae not evident. Scutellum shiny orange with tiny yellow setae on margin and disc. Halteres yellow. Legs: uniform orange except for coxae which are blackish. Fore-coxae with white setae anteriorly. Claws black, with tip and proximal end orange.

Wings: 4,8–7,9 × 1,6–3,0 mm (range). Membrane covered with brown microtrichia except for parts of some cells near wing base. Venation as in Fig. 1.

Abdomen: Terga shiny red-orange with T1 and anterior part of T2 dark red-brown (♂) or uniform shiny blackish (♀). Posterolateral corners of T2–3 silver pruinose. Sterna orange (♂) or black (♀). All fine setae shiny yellow. T1–6 with orange-red discal bristles. Genitalia orange; ♂ as in Figs 2–3, ♀ as in Figs 4–6.

Variation: Very little individual variation. Black mesonotal marking varies considerably in shape and size. Sexual dimorphism in abdominal coloration exists as indicated above. A ♀ from Inhaca has no mesonotal marking and an orange abdomen. I believe that this specimen (which agrees with the description above in every other detail) is teneral (supported by the fact that the abdomen contains no developed eggs) and that it would have become darker with age. This kind of post-emergence change is known to occur in other Asilidae.

Material examined: SOUTH AFRICA: *Cape Province:* 2 ♂, *c.* 5 km W of Hotazel (2722BB), 23.iii.1982, J. Londt & L. Schoeman, Acacias/Grass/Shrubs (NM); 4 ♂ 2 ♀, 15 km SE Van Zylsrus (2622CC), 22.iii.1982, J. Londt & L. Schoeman, Acacias/Grass/Shrubs (NM); 1 ♀, 55 km W Van Zylsrus (2721BA), 22.iii.1982, J. Londt & L. Schoeman, Acacias/Dry Grass (NM); 1 ♀, Roaring Sands Resort nr. Witsand (2822CB), 17–18.iii.1982, J. Londt & L. Schoeman, Acacia Woodland, Sandy area (NM); 1 ♂ 1 ♀, Groblershoop (2821DD), 13–17.iv.1981, C. G. E. Moolman (NCI). *Orange Free State:* 1 ♂ 1 ♀ (types of versicolor), Parijs (= Parys) (2627CD), 1.89, Alsten (SAM). *Transvaal:* 1 ♂ (paratype of *rubra*), Pyra-



Figs 2–6. *Stiphrolamyra angularis* (Loew) genitalia. 2–3. Male (Van Zylsrus). 2. Lateral. 3. Dorsal. 4–6. Female (Van Zylsrus). 4. Lateral. 5. Dorsal. 6. Ventral view of subgenital plate.

mid (2528CA), T.P. (= Transvaal, Pretoria), 14.xii.1928, H. K. Munro (NM); 1 ♂, Wonderboom (2528CA), 3.i.1932, J. Wagner (NM); 1 ♀, Pretoria North (2528CA), 28.ii.1954, G. van Son (NM); 1 ♀, Soutpan Pretoria (2528CA), 4–10.ii.1929, G. van Son (NM); 1 ♂, Wonderboom (2528CA), 1909, C. J. Swierstra (NM); 1 ♂, 6 km N of Vivo (2229CC), 23–24.ii.1980, Londt & Schoeman, bushveld vegetation and old lands (NM); 1 ♀, Soutpan, Soutpansberge (2229CD), 23–24.ii.1980, J. Londt & L. Schoeman, bushveld vegetation (NM). NAMIBIA: 2 ♂, Duineveld nr. Stampriet (2418DB), xi.1953, E. Patzelt (NM); 1 ♀, Gobabis (2218BD), 14.iii.1979, V. B. Whitehead (SAM). ZIMBABWE: 1 ♀, Springvale (1629DC), 28.xii.1911, Rhodesia Museum (SAM). MOZAMBIQUE: 1 ♀, Inhaca (2632BB), 20.iv.1980, H. R. Feijen (NM). In the BMNH there are 2 ♀ with inadequate lable data ie. 1 ♀ (paratype of *Lamyra vesicolor*), pres. by Imp. Bur. Ent. Brit. Mus. 1924–207; 1 ♀, 68.4 [=ex W. Saunders coll.], S. E. Afr.

Previous records (material not seen): Loew's female holotype was from 'T'kons fountain' and collected by Wahlberg. I have not been able to locate such a locality in any gazetteer or atlas. The presently known distribution of *angularis* suggests that Wahlberg may have collected the specimen somewhere in the Orange Free State or Transvaal during one of his trips from Durban into the interior of South Africa. It is more probable, however, that it was collected somewhere in Namibia or Botswana as the 'T'' prefix suggests a name of Hottentot origin, and all the other material collected by Wahlberg and described by Loew in 1858 is from Namibia or Botswana. Bromley's types of *Lamyra rubra* were one male holotype from Zaïre, Elisabethville (11°32'S: 27°28'E), which was apparently deposited in the Musée du Congo Belge, and one male paratype from 'Pyramyd, T.P.'. This paratype is now in the Natal Museum and I can confirm that it is a typical *angularis*. While I have not seen the holotype I am prepared to accept that *Lamyra rubra* is indeed a synonym of *S. angularis*.

Remarks: My own experience and the known distribution of *angularis* strongly suggests that the species lives in *Acacia* woodland. All the specimens collected by me were taken on low herbage in the vicinity of *Acacia* trees. There are at present no prey records for the species.

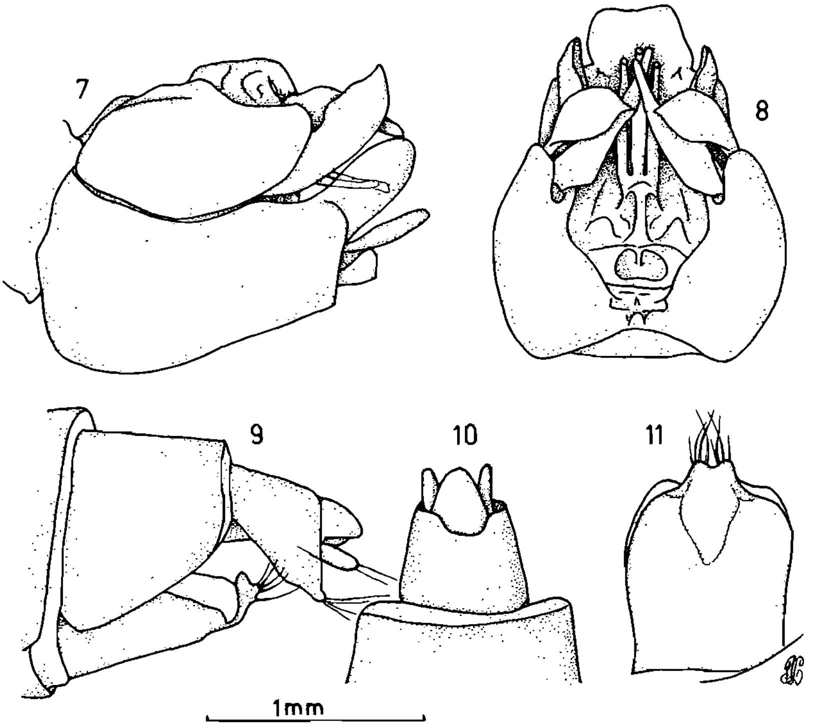
Stiphrolamyra annae sp. n. Figs 7–11

Derivation: Named for my wife, Ann, who has willingly spent many weeks 'holding the fort' while I have roamed the veld of southern Africa hunting for new and exciting Asilidae like the one here described.

Description: Based primarily on the holotype but supplemented with information from the paratypes.

Head: Antenna orange, fine gold pruinose, segments 1 and 2 with yellow-white bristles and setae. Face below antennae brown-yellow but changing to red-brown at lower facial margin; gena dark red-brown. Mystax pale yellow-white. Vertex shiny black but area just dorsal of antennae red-brown. Ocellarium with three tiny ocelli and a pair of moderately well-developed white ocellar setae. Occiput black, gold pruinose especially along eye margins. Postocular setae yellow and dark brown; setae of lower occiput white. Proboscis shiny dark red-brown. Palp dark red-brown with bristles and setae dark brown except for a few fine setae proximally which are white.

Thorax: Pleura blackish, uniformly fine gold pruinose. Katatergite with *c.* 15 strong black bristles and a number of finer black and white setae. Upper hind margin of anepisternum with 2 or 3 yellowish bristles. Other pleura with fine yellow-white setae only. Anatergite black, with no setae. Mesonotum blackish except for small patches of orange-brown anteriorly and mid-posteriorly, fine grey pruinose. A pair of clear black spots just behind transverse suture. Setae short, mostly shiny yellow but a few black. Two well-developed notopleural bristles, 3 supra-alars, 2 postalars, all black. A few (*c.* 5 pairs) black small dorsocentral bristles near hind margin of scutum. Scutellum black with 6 black or yellowish vertically directed marginal bristles; disc with fine yellowish setae only. Halteres black distally, dark brown proximally. Legs: brown-red except for coxae, dorsal parts of fore and mid-femora, distal three-quarters of hind femora which are dark red-brown. Fore coxae with white setae anteriorly. Claws black distally and brown-red proximally. Wings: 7,6 × 2,7 mm (holotype), venation similar to *angularis*.



Figs 7–11. *Stiphrolamyra annae* sp. n. genitalia. 7–8. Male paratype. (Noenieput). 7. Lateral. 8. Dorsal. 9–11. Female paratype (Noenieput). 9. Lateral. 10. Dorsal. 11. Ventral view of subgenital plate.

Abdomen: Terga shiny black; T2–4 each with an oval medial orange area which is gold pruinose. Sterna dull dark-brownish. All fine setae yellow-white; T1–3 with discal bristles, those on T1 brown while those on T2–3 black. ♂ genital capsule dark red-brown; genitalia as in Figs 7–8 (paratype illustrated).

Paratypes: Very little individual variation. T1 may have a small indistinct orange-brown medial spot. Sexual dimorphism insignificant. ♀ genitalia as in Figs 9–11.

Material examined: SOUTH AFRICA: *Cape Province:* 3 ♂ 5 ♀ (holotype ♂ and paratypes), 35 km SE Noenieput (2720CB), 20.iii.1982, J. Londt & L. Schoeman, flowers on roadside (NM); 2 ♂ 1 ♀ (paratypes), 35 km WNW of Upington (2820BD), 20.iii.1982, J. Londt & L. Schoeman, roadside vegetation (NM); 1 ♀ (paratype), 25 km N Noenieput on road to Koopan-suid (2720AC), 20.iii.1982, J. Londt & L. Schoeman, thick vegetation/trees (NM). Natal Museum Type No. NM–2574.

Remarks: This species was collected resting on low vegetation in relatively open situations. It was found together with *bipunctata* and *schoemani* and may compete with these species for prey. A female was collected with prey—a small hymenopteran (Halictidae).

Stiphrolamyra bipunctata (Loew, 1858) Figs 12–16

Lamyra bipunctata Loew, 1858: 338; 1860: 187.
Stiphrolamyra bipunctata; Engel, 1928: 231; Efflatoun, 1934: 179; Hull, 1962: 369; Oldroyd, 1974: 116; 1980: 355.

Redescription: Based on fresh northern Cape Province material.

Head: Antenna orange, fine gold pruinose, segments 1 and 2 with white setae. Face orange; gena blackish, a narrow gold pruinose strip below eye. Mystax white, a few yellow bristles on lower facial margin. Vertex red. Ocellarium and a pair of spots above antennal bases dark red-brown. Ocellarium with a pair of well-developed yellow bristles. Occiput black, gold pruinose, especially along eye margins. Postocular setae orange, setae of lower occiput white. Proboscis blackish. Palp dark red-brown with orange-brown distal end; bristles orange except for a few white ones posteriorly.

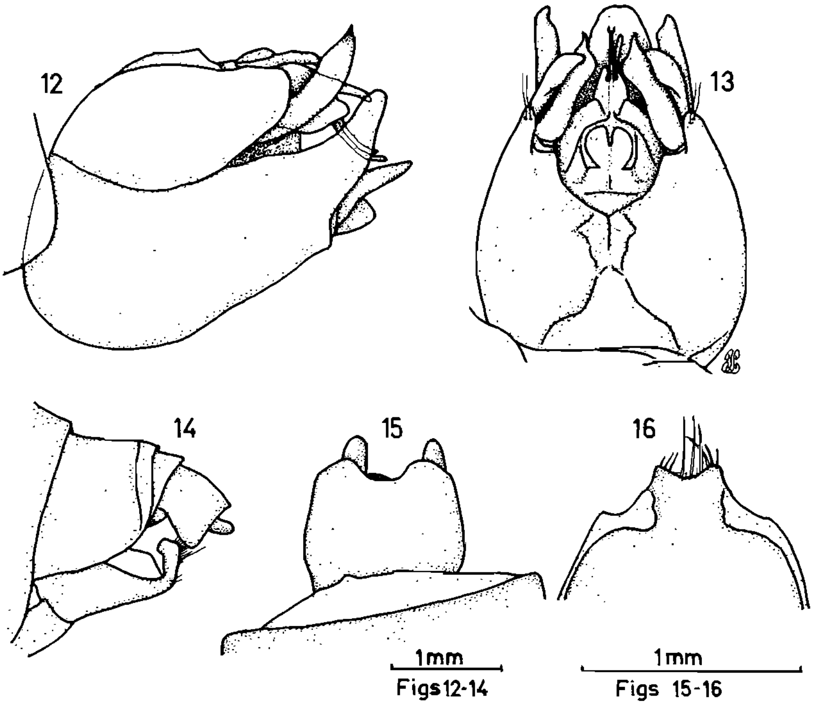
Thorax: Pleura blackish, a strong silver pruinose stripe from fore-coxa to wing base and silver pruinose areas on metanepisternum and katepisternum. Katatergite with *c.* 25 well-developed white bristles. Upper hind margin of anepisternum with 4 white bristles. Other pleura with longish white setae only. Anatergite dark red-brown and lacking setae. Mesonotum orange with a large central black marking covered with grey pruinescence; a pair of black spots just behind transverse suture; setae short orange; *c.* 7 notopleural bristles, *c.* 20 supra-anals, *c.* 6 postalars, all orange. Four pairs of weak orange dorsocentral bristles. Scutellum dark red-brown with *c.* 5 orange marginal bristles and a few tiny yellow setae on disc. Halteres dark brown. Legs: coxa, trochanter and proximal three-quarters of femur blackish; tarsus, tibia and distal one-quarter of femur reddish. Fore-coxa with white setae anteriorly. Claws black with orange base. Wings: 13,2–15,9 × 4,4–5,1 mm (range). Venation similar to *angularis*.

Abdomen: T1 shiny black, other terga shiny blue-black; T2–4 (little on 4) with white pruinose posterolateral corners. Sterna black. Setae short white except those mid-dorsally which are black. T1–6 with white discal bristles. Genitalia orange; ♂ as in Figs 12–13, ♀ as in Figs 14–16.

Variation: Slight individual variation only. T4 may lack white pruinescence; scutellum may have a little orange colour laterally. No obvious sexual dimorphism. It should be noted that 'greasy' specimens do not demonstrate pruinescence.

Material examined: SOUTH AFRICA: *Cape Province:* 2 ♂ 7 ♀, 35 km SE of Noenieput (2720CB), 20.iii.1982, J. Londt & L. Schoeman, flowers on roadside (NM); 1 ♀, 20 km N of Noenieput (2720AC), 20.iii.1982, J. Londt & L. Schoeman, roadside vegetation (NM); 1 ♀, 15 km S Twee Rivieren (2620DA), 21.iii.1982, J. Londt & L. Schoeman, dry roadside vegetation (NM); 1 ♀, Hester Malan, N.R. 10 mls E. Springbok (2918CA), 7–8.i.1972, Southern Afr. exped. (BMNH); 1 ♀, Van Wyk's Vlei (3021BD), 11.95, Collector illegible (SAM). NAMIBIA: 1 ♀, Hardap Dam (2417BD) Mariental District, 10–14.iv.1972, Strydom & Jones (NM); 1 ♀, Seeheim (2617DD), 18.iv.1933, G. van Son (NM); 1 ♀, 80 mls S of Gobabis (2317BB), 27.xii.1960, W. D. Haacke (NM); 1 ♂, Otjikoko Sud Fm., 33 mls ENE Omaruru (2116BA), 10–13.ii.1972, Southern Afr. exped. (BMNH); 1 ♀, Swakop R., 3 mls S. Okahandja (2216BB), 7.iv.1972, Southern Afr. exped. (BMNH); 1 ♀, Kalkfontein (2616DB), x.1923, J. S. Brown (SAM).

Previous records (material not seen): Loew (1858) studied both male and female specimens (number not given) from Swakop, collected by Wahlberg. Brinck



Figs 12–16. *Stiphrolamyra bipunctata* (Loew) genitalia. 12–13. Male (Noenieput). 12. Lateral. 13. Dorsal. 14–16. Female (Noenieput). 14. Lateral. 15. Dorsal. 16. Ventral view of subgenital plate.

(1955) states that Wahlberg started his trip along the dry Swakop River bed on May 10 and so it seems certain that the types were collected in the second half of May 1854.

Remarks: This species was collected on low bushy roadside vegetation where many flowering plants were concentrated. Three females were taken with prey—all hymenopterans (2 Megachilidae, 1 Pompilidae).

Stiphrolamyra diaxantha (Hermann, 1907) Figs 17–21

Laphria diaxantha Hermann, 1907: 72
Stiphrolamyra diaxantha; Engel, 1928: 232.

S. diaxantha was described from a unique specimen collected 50 km S of Lüderitz (Prince of Wales Bay). Other material, mostly from Willowmore, was subsequently referred to this species by various workers. With the discovery that material collected 10 km N of Lüderitz was different from Willowmore specimens, I decided to look into the situation. On attempting to get the type of *diaxantha* I discovered that it is not in the Munich Museum as has previously been stated (Oldroyd 1974) and that its whereabouts are not known. Using Hermann's good description and all the specimens available to me, I have come to the conclusion that the holotype must surely have been conspecific with the recently collected material from Agate Beach, some 60 km N of the type locality, and that the southern Cape material has still to be named (see *S. hermanni*). Hermann's description clearly states that the face *(stirn)* is dark brown, the rostrum is uniformly black, the bristles of the katatergite *(der Borstenfächer vor den hellbraunen Schwingern)* are honey-coloured and that the underside of the genital segments have a few strong yellow bristles *(Die behaarung der beiden letzten Segmente und des Genitalsegmentes weisslich; ausserdem trägt dieses noch an seiner Unterseite einige starke gelbe Borsten)*. These features are possessed by the specimens listed below, but specimens listed under *S. hermanni* have the following arrangement instead: The face is brown-orange, the rostrum has an orange-brown base, the bristles of the katatergite are dark red-brown to black and the underside of the genital segments have only a few poorly developed pale setae (compare Figs 19 & 14). *S. diaxantha* is therefore a species presently known only from the coastal areas north and south of Lüderitz. The majority of previously identified specimens belong to the newly described *S. hermanni* which has a very much wider distribution (see Fig. 35).

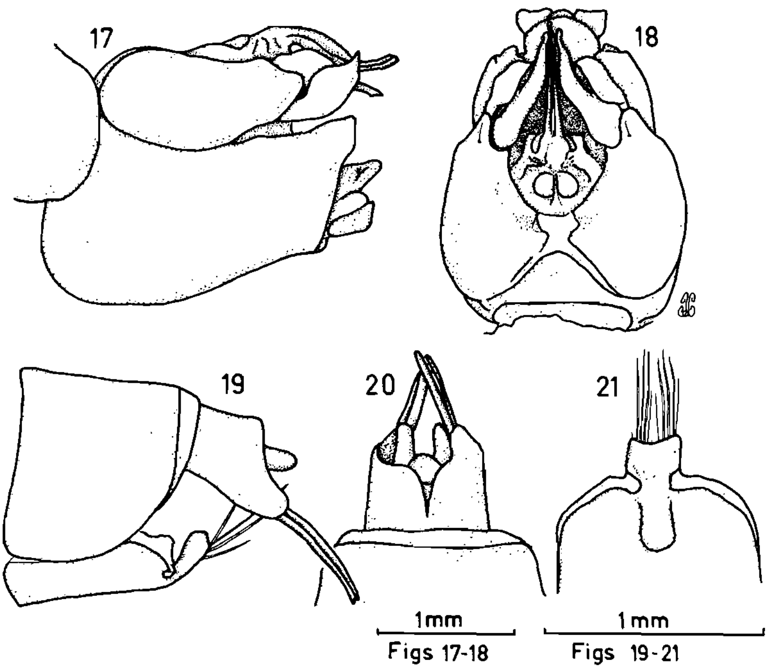
Redescription: Based on the material listed below.

Head: Antenna dark red-brown, fine silver pruinose, segments 1 and 2 with white bristles and setae. Face dark red-brown but orange-brown along eye margins; gena dark red-brown to black. Mystax white, 1 or 2 yellowish bristles laterally on lower facial margin. Vertex blackish. Ocellarium with a pair of pale yellow ocellar setae. Occiput black, uniformly fine silver pruinose. Postocular setae brown-yellow, setae of lower occiput white. Proboscis dark red-brown to black. Palp similar in colour with mostly white setae, a few yellow and brownish bristles distally.

Thorax: Pleura dark brown with small patches of orange-brown, uniformly silver pruinose. Katatergite with *c.* 20 longish yellow bristles and white setae. Upper hind margin of anepisternum with 3 pale yellow bristles. Other pleura with longish fine white setae only. Anatergite dark red-brown lacking setae. Mesonotum blackish except for orange-brown lateral margins and two central longitudinal orange-brown stripes; fine silver pruinose. Black spots behind transverse suture rather indistinct. Setae shortish black and white. Four or 5 yellow and brown notopleural bristles, *c.* 8 black or brown supra-alars, 5 dark-brown or yellow post-alars. 2–3 pairs of poorly developed black dorsocentral bristles. Scutellum blackish with *c.* 12 black and yellow marginal bristles, disc with fine white setae. Haltere brown-yellow with darker distal end. Legs: uniform dark red-brown but femora yellow-brown dorsally. Fore-coxae with white setae anteriorly. Claws blackish but slightly brownish at proximal end. Wings: 9,2 × 2,8 mm. Venation similar to *angularis*.

Abdomen: Terga black with orange areas medially all terga silver pruinose laterally. Sterna dark brown, fine gold pruinose. T1–5 with black or brown-yellow discal bristles, fine setae white laterally shiny orange medially. Genital capsule red-brown, genitalia as in Figs 17–18.

Variation: Very little individual variation; orange-brown mesonotal stripes may be rather indistinct. Sexual dimorphism insignificant. ♀ genitalia as in Figs 19–21. Lateral margins of T9 projecting posteriorly and bearing 1 or 2 very strong ventrally directed bristles.



Figs 17–21. *Stiphrolamyra diaxantha* (Hermann) genitalia. 17–18. Male (Lüderitz). 17. Lateral. 18. Dorsal. 19–21. Female (Lüderitz). 19. Lateral. 20. Dorsal. 21. Ventral view of subgenital plate.

Material examined: NAMIBIA: 3 ♂ 6 ♀, Lüderitz District, Agate Beach, 10 km N of Lüderitz (2615CA), 18.ii.1974, M E & B J Irwin, low coastal vegetated dunes (NM).

Previous records: Hermann's holotype female was from 'D. Westafrica, Prince of Wales Bay' (now Prinzenbai—2715AA—some 50 km S of Lüderitz) and was collected by Dr L. Schultz. The specimen is not in Munich as recorded by Oldroyd (1974) and has not been traced. Specimens referred to as *diaxantha* by Efflatoun (1934) were named *S. rubicunda* by Oldroyd in 1947 (see Oldroyd 1974). *S. rubicunda* is a Palaearctic species. All southern African specimens previously identified as *diaxantha* (except for the holotype and the specimens listed above) are now to be known as *hermanni*.

Stiphrolamyra hermanni sp. n. Figs 22–26

As has been explained under *S. diaxantha* it is necessary to recognise two species where there had previously been one. Previously identified *S. diaxantha* from the Cape Province of South Africa are not conspecific with the holotype of the species and other material collected near Lüderitz in Namibia. I hereby name the Cape species *hermanni* in honour of Professor F. Hermann who described *diaxantha* and so many other interesting southern African Asilidae.

Description: Based mainly on Willowmore material in the Natal Museum.

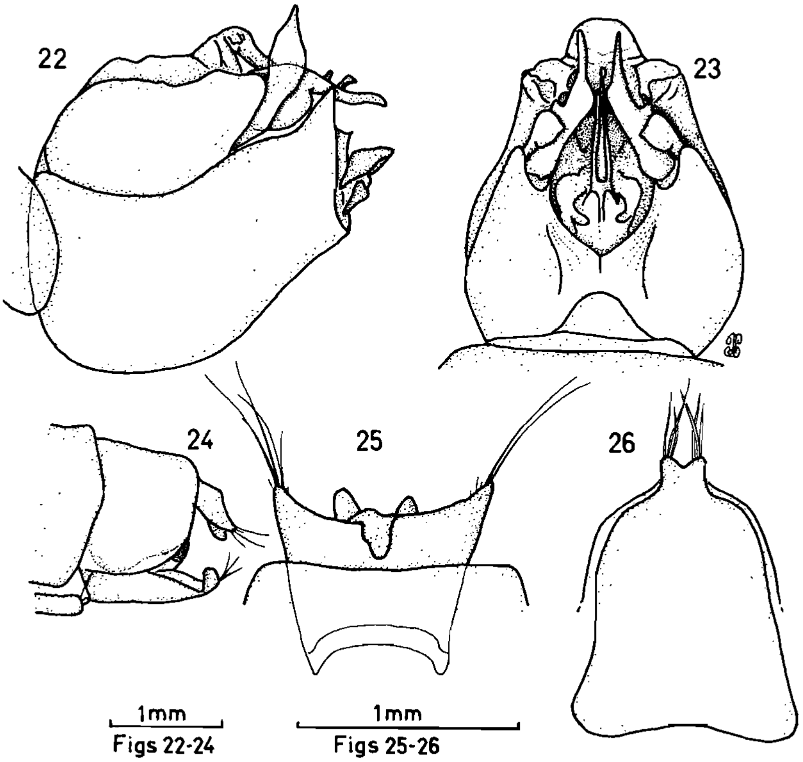
Head: Antenna red-brown with proximal part of segment 3 orange, segments 1 and 2 with orange-brown bristles (on segment 1 ventrally only) and white setae. Face brown-orange; gena red-brown, a narrow silver pruinose strip below eye. Mystax white, a pair of orange bristles on face below antennae and about 4 similar bristles laterally on lower facial margin. Vertex dark red-brown. Ocellarium with a pair of well-developed brown-orange bristles. Occiput dark red-brown and uniformly silver pruinose. Postocular setae orange-brown, setae of lower occiput white. Proboscis dark red-brown, slightly orange-brown proximally. Palp orange-brown with dark brown bristles distally and white setae proximally.

Thorax: Pleura patchy dark-brown and orange-brown, uniformly fine silver pruinose. Katatergite with about 20 black bristles. Upper hind margin of anepisternum with 3 bristles (upper one black, lower 2 dark brown or orange). Other pleura with black and white setae. Anatergite dark red-brown lacking setae. Mesonotum dark red-brown with narrow orange-brown longitudinal stripes; covered with fine grey pruinescence; a pair of black spots just behind transverse suture; fine setae moderately long, orange and white. Two notopleural bristles, *c.* 5 supra-alars, *c.* 3–4 postalars, all black. *C.* 5 pairs of weak black dorsocentral setae. Scutellum dark red-brown with an orange hind margin, *c.* 8 black and white marginal bristles and a number of white setae on disc. Halteres dark brown. Legs: uniform red-brown, hind femora a little darker. Fore-coxa with white setae anteriorly. Claws black with reddish base. Wings: 5,8–13,5 × 1,9–4,8 mm (range). Venation similar to *angularis*.

Abdomen: Terga orange, dark red-brown laterally; all terga silver pruinose laterally. Sterna uniform brown; silver pruinose. T1–6 with black discal bristles. Genital capsule of ♂ brown-orange, genitalia as in Figs 22–23. Terminalia of ♀ brown and as in Figs 24–26 (paratypes illustrated).

Variation: Individual variation in size is considerable; females are usually a little larger than males. Terga, especially T1–4, variable with regard to extent of dark red-brown coloration. Sexual dimorphism not marked.

Material examined: SOUTH AFRICA: *Cape Province:* 4 ♂ 10 ♀ (holotype ♂ and paratypes), Willowmore (3323AD), various dates—25.iv.1921 (holotype), iii.1907, iii.1911, 1.i.1912, 25.xii.1912, 5.iii.1918, ii.1920, 10.iii.1920, 25.iii.1920, 3.i.1927, 20.i.1927, Dr H. Brauns (NM); 3 ♀ (paratypes), Resolution (3326BA), Albany District, 30.i.1928, 19.i.1929, A. Walton (NM); 1 ♂ (paratype), Grootderm (2816DA), 10.xi.1948, G. van Son (NM); 1 ♀ (paratype), 16 ml. E of Cradock, farm 'Who can Tell' (3225BB), 11.iii.1972, M E & B J Irwin (NM); 1 ♀ (paratype), *c.* 65 km SE Noenieput (2720DC), 20.iii.1982, J. Londt & L. Schoeman, kloof/Green Shrubs (NM); 1 ♀ (paratype), Tafelberg, Doornberg (2722AB), 23.i.1930, H. K. Munro (NCI); 1 ♂ (paratype), Vogelfontein (3221DA), P. Albert Div., iii.1929, A. J. Hesse (SAM); 5 ♂ 6 ♀ (paratypes), Beaufort West Dist. (3222BC), ii.58 (SAM); 4 ♂ 6 ♀ (paratypes), Spitzkop, Laingsburg Dist., iii.1936 (SAM); 1 ♂ (paratype), Wyk's Vlei (= Van Wyks-



Figs 22–26. *Stiphrolamyra hermanni* sp. n. genitalia. 22–23. Male paratype (Willowmore). 22. Lateral. 23. Dorsal. 24–25. Female paratype (Willowmore). 24. Lateral. 25. Dorsal. 26. Ventral view of subgenital plate.

vlei—3021BD), 1886, Alston E. S. (SAM); 1 ♂ 2 ♀ (paratypes), Willowmore (3323AD), xii.1907, 25.xii.1912, 1.iv.1920, Dr Brauns (SAM); 1 ♂ (paratype), Dikbome, Merweville (3221DA) Koup, i.1953, H. Zinn (SAM); 1 ♂ (paratype), Prince Albert (= Prins Albert—3322AA), B11 (SAM); 1 ♂ (no type status), B161 (SAM). *Orange Free State:* 1 ♀ (paratype), Bloemfontein (2926AA), Kaalspruit, 27.xxi.1920, M. K. Munro (NM). Natal Museum Type No. NM-2575. The BMNH has 4 specimens (identified as *diaxantha*) which are not given type status: ie. 1 ♂, Willowmore (3323AD), 25.xii.1907, Dr Brauns; 1 ♂, Willowmore, 25.iii.1920, Dr Brauns; 1 ♂ 1 ♀, Karoo Region, Graaff-Reinet (3224BC), ii.1961, H. J. S. Kruger.

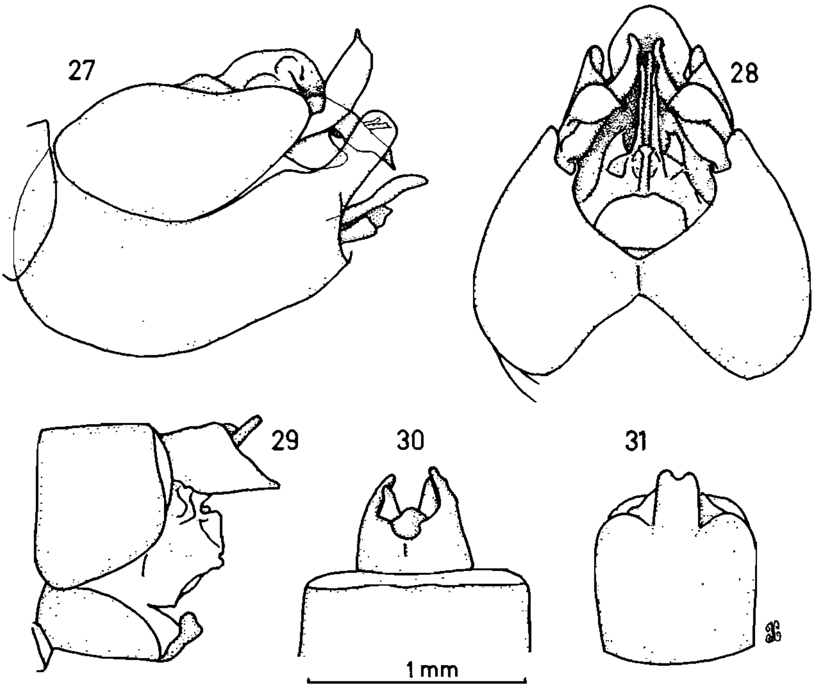
Remarks: a female collected near Cradock was captured with prey—Diptera (Bombyliidae).

Stiphrolamyra schoemani sp. n. Figs 27–31

Derivation: Named for my friend Mr Lou Schoeman whose congenial company has made a number of my collecting trips more enjoyable and rewarding.

Description: Based primarily on the holotype but supplemented with information from paratypes.

Head: Antenna orange, fine gold pruinose, segments 1 and 2 with few black bristles and setae. Face shiny brown, a little darker on lower facial margin; gena shiny



Figs 27–31. *Stiphrolamyra schoemani* sp. n. genitalia. 27–28. Male paratype (Upington). 27. Lateral. 28. Dorsal. 29–31. Female paratype (Upington). 29. Lateral. 30. Dorsal. 31. Ventral view of subgenital plate.

black. Mystax with yellow, black and white setae, confined largely to lower facial margin. Vertex shiny black, an orange area just behind ocellarium. Ocellarium with a pair of poorly developed black ocellar setae. Occiput shiny black with gold pruinose eye margins and areas either side of the neck. Postocular setae black, setae of lower occiput fine short black and white. Proboscis shiny dark red-brown to black. Palp similar and with black bristles and setae except for a few fine white setae proximally.

Thorax: Pleura blackish, anepisternum, anepimeron and parts of katepisternum and propleuron shiny and with a bluish sheen. Other pleura fine dull brown pruinose. Katatergite with *c.* 12 black bristles. Upper hind margin of anepisternum with 1 black bristle. Other pleura with few black setae only. Anatergite dark red-brown with no setae. Mesonotum shiny orange with indistinct darker areas anteriorly and mid-laterally; pruinescence absent, a slight bluish sheen evident; setae sparse short black. Two short notopleural bristles, 4 or 5 short supra-alars, 1 short postalar, all black. No obvious dorsocentrals evident. Scutellum shiny black (contrasting with shiny orange posterior part of mesonotum) with *c.* 6 very small indistinct black setae marginally, disc without setae. Halteres dark red-brown to black. Legs: Tibiae and tarsi brown-orange, remaining segments blackish. Fore-coxae with short black setae anteriorly. Claws black with orange-brown proximal parts. Wings: 6,6 × 2,3 mm (holotype). Venation similar to *angularis*.

Abdomen: Terga shiny dark red-brown. Sterna dark brown, uniformly fine dull gold pruinose. T1–5 with black discal bristles, all fine setae black. Genital capsule dark red-brown, ♂ genitalia as in Figs 27–28 (paratype illustrated).

Paratypes: Very little individual or sexual variation. Some specimens may have a fairly distinct orange-brown transverse stripe just above the antennal base. ♀ genitalia as in Figs 24–31.

Material examined: SOUTH AFRICA: *Cape Province:* 3 ♂ 2 ♀ (holotype ♂ and paratypes), 35 km WNW of Upington (2820BD), 20.iii.1982, J. Londt & L. Schoeman, roadside vegetation (NM); 2 ♀ (paratypes), 35 km SE Noenieput (2720CB), 20.iii.1982, J. Londt & L. Schoeman, flowers on roadside (NM); 1 ♀ (paratype), Kalahari Gemsbok National Park, Nossob River 35 km N camp (2620BD), 21.iii.1982, J. Londt & L. Schoeman, dry river-bed vegetation (NM); 1 ♂ (paratype), 36 miles W of Hopetown (2923DA), 28.i.1930, H. K. Munro (NCI). NAMIBIA: 2 ♂ 1 ♀ (paratypes), Kamanyab (1914DB), iii.1925, Mus. Exped. (SAM); 1 ♂ (paratype), Outjo (2016AA), i.1925, Mus. Exped. (SAM); 1 ♂ (paratype), Otjikondo (1915CD), i.1925, Mus. Exped. (SAM). Natal Museum Type No. NM-2576.

Remarks: This very distinctive species was collected on low roadside vegetation along with *annae* and *bipunctata*. No prey records are available.

Stiphrolamyra vincenti sp. n. Figs 32–34

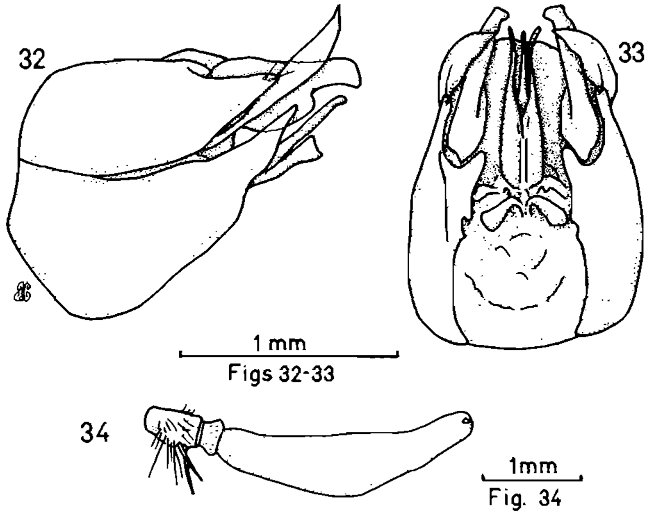
Derivation: Named for Dr Vincent B. Whitehead, entomologist at the South African Museum, Cape Town, and collector of some of the type specimens.

Description: Based primarily on the holotype.

Head: Antenna (Fig. 34) dark red-brown, fine gold pruinose, segment 1 with white setae, segment 2 tiny (less than one-third the length of 1) and completely lacking setae, segment 3 long and well developed (about 4 times as long as segments 1 and 2 combined). Face and gena shiny black. Mystax white except for a few black setae laterally on lower facial margin. Vertex shiny black, ocellarium with a few yellow and white setae. Occiput blackish but covered uniformly with silver pruinescence. Postocular setae orange-brown, setae of lower occiput white. Proboscis dark red-brown but slightly lighter proximally. Palp dark red-brown with dark brown bristles distally and white setae proximally.

Thorax: Pleura dark red-brown, mostly gold pruinose but with a silver pruinose strip involving fore coxa, propleuron and anepisternum. Katatergite with about 20 black bristles and associated setae. Upper hind margin of anepisternum with 3 black bristles. Other pleura with black and white setae. Mesonotum dark red-brown with only very narrow orange-brown moon-shaped markings anterior of transverse suture; partly covered with fine silver pruinescence; no obvious black spots behind suture; fine setae black and white. Two notopleural bristles, *c.* 5 supra-alars, *c.* 2–3 post-alars, all brownish (those anteriorly are a little paler). Scutellum dark red-brown, a few tiny black setae on hind margin and on disc. Halteres dark red-brown. Legs: dark red-brown but proximal ends of femora and tibiae pale yellowish. Fore coxa with white setae anteriorly. Claws with distal half black and proximal half orange-brown. Wing: 10,5 × 4,0 mm. Venation similar to *angularis* but wing membrane grey shaded along all veins.

Abdomen: Terga 2–6 orange with narrow dark red-brown lateral margins; terga 2 and 3 with small silver pruinose spots posterolaterally. Sterna mostly brown. T1–6 with black discal bristles. Genital capsule dark red-brown, genitalia as in Figs 32–33 (Botswana paratype illustrated).



Figs 32–34. *Stiphrolamyra vincenti* sp. n. 32–33. Male paratype (Kai Kai) genitalia. 32. Lateral. 33. Dorsal. 34. Male paratype (Vioolsdrif) right antenna, lateral view.

Variation: ♂ paratypes agree perfectly with description of holotype, but the specimen from Botswana is a little smaller (wing length 7,2 mm).

Material examined: SOUTH AFRICA: *Cape Province:* 2 ♂ (holotype and paratype), Vioolsdrif—49 km S (2917BB), 20.x.1980, V. B. Whitehead (SAM). BOTSWANA: 1 ♂ (paratype), 15 km SE of Kai Kai (1921CC), 25.ix.1961, Haacke (NM). Natal Museum Type No. NM—2577.

Remarks: *S. vincenti* is closely related to *S. comans* Hobby, from Kenya and Uganda. Both species have abnormally long third antennal segments and agree in many other ways. Unfortunately the types of *comans* are females and so direct comparisons of male genitalia are not possible. While the males described here as *S. vincenti* may prove to be the males of *comans* I doubt this as there are some minor differences in the descriptions (e.g. coloration of frons, humeral callus, pleura, mesonotum, wings, etc.).

DISCUSSION

Oldroyd (1980) lists six valid Afrotropical *Stiphrolamyra* species. Three of these have not been recorded from southern Africa and have not been studied by me. *S. albibarbis* Engel, 1928, was described from South Yemen and was listed by Hull (1962), together with *S. rubicunda* Oldroyd, 1947, as a Palaearctic species. South Yemen lies at the northern boundary of the Afrotropical Region and so *S. albibarbis* could well be a Palaearctic species closely related to *S. rubicunda* (the

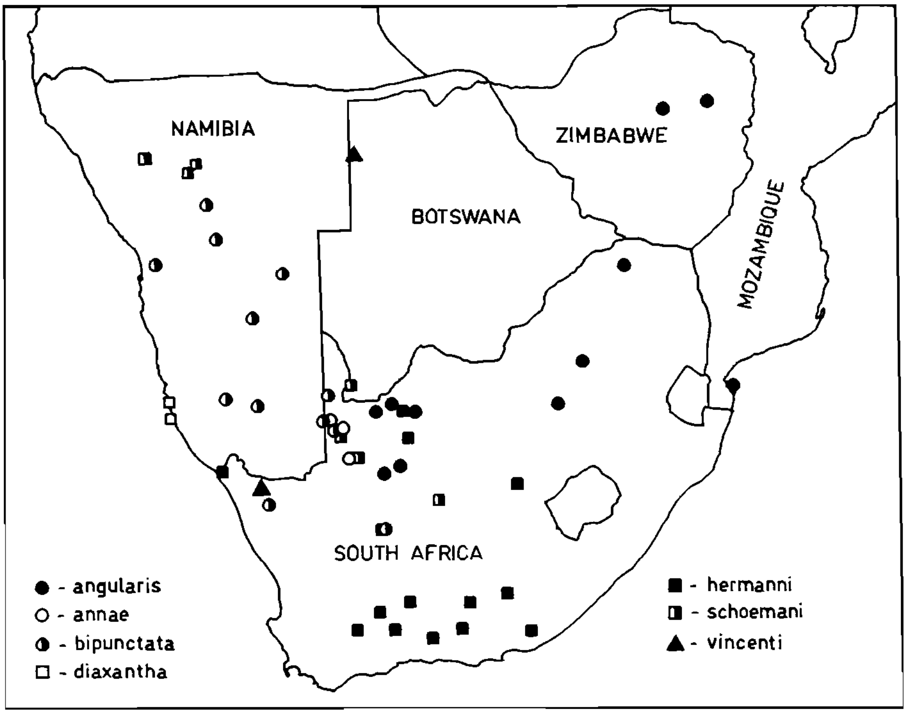


Fig. 35 The distribution of *Stiphrolamyra* species in southern Africa.

species Efflatoun called *S. diaxantha*) inhabiting parts of Egypt. *S. apicalis* (Curran, 1927) and *S. comans* Hobby, 1939, were described from Zaïre and East Africa (Kenya & Uganda) respectively. The description of *apicalis* suggests that it may be allied to *diaxantha* and *hermanni* but the 'broadly brownish wing apex' and leg coloration (reddish with femora broadly black above) immediately separates it from these southern African species. In his description of *comans*, Hobby (1939) states that the species is allied to *Lamyra rubra* (now a synonym of *S. angularis*) and his description confirms this. The description suggests, however, a closer relationship with *vincenti*. There are a few minor discrepancies in the descriptions of these two species and so, at least until further material is available, I consider them different species.

The southern African distribution of *Stiphrolamyra* (Fig. 35) indicates that it is a genus of drier parts. These regions have not been well sampled and so it is likely that future collecting will greatly increase our knowledge about these striking flies. On my trip to the northern Cape it was evident that individuals of at least three species *(annae, bipunctata* and *schoemani)* were concentrated along road verges. It was also apparent that these verges supported the only patches of flowering plants at the time (late summer when most of the veld had suffered from overgrazing by sheep, goats and cattle) and that the flies were feeding on bees and other Hymenoptera visiting these flower patches. It is of interest that the three species mentioned above were apparently competing for the same prey and possessed very similar behavioural characteristics. Although I witnessed nothing to suggest that there was direct interaction between the species, I believe that they were 'forced' to feed together due to the fact that suitable feeding grounds were so limited.

The limited information available suggests that species in the genus *Stiphrolamyra* are active, in the adult stage, during the late summer months (Table 1).

TABLE 1

Months during which species of southern African *Stiphrolamyra* have been collected.

Species	Months											
	J	F	M	A	M	J	J	A	S	O	N	D
angularis	●	●	●	●	—	—	—	—	—	—	●	●
annae	—	—	●	—	—	—	—	—	—	—	—	—
bipunctata	—	—	●	●	●	—	—	—	—	—	—	●
diaxantha	—	●	—	—	—	—	—	—	—	—	—	—
hermanni	●	●	●	●	—	—	—	—	—	—	●	●
schoemani	●	—	●	—	—	—	—	—	—	—	—	—
vincenti	—	—	—	—	—	—	—	—	—	●	●	—

ACKNOWLEDGEMENTS

My thanks are extended to Mr Lou Schoeman for his company and assistance, especially during my short expedition to the northern Cape Province, and for his willingness to provide our accommodation by allowing the use of his caravan, even over some of the country's worst roads. I wish to thank Dr Brian Stuckenberg for his continued support of my work and for offering constructive criticism of the manuscript of this paper. The financial assistance given to my work by the Council for Scientific and Industrial Research is gratefully acknowledged.

REFERENCES

BRINCK, P. 1955. Swedish exploration of South African Animal Life during 200 Years. *South African Animal Life* **1**: 11–61.

BROMLEY, S. W. 1935. New Asilidae from the Belgian Congo (Diptera). *Rev. Zool. Bot. Afr.* **26** (4): 404–415.

CURRAN, C. H. 1927. Undescribed Asilidae from the Belgian Congo. *Am. Mus. Novit.* **272**: 1–18.

EFFLATOUN, H. C. 1934. A monograph of Egyptian Diptera Part iv. Family Asilidae (Section 1). *Mém. Soc. r. ent. Egypte* **4** (2): 1–198.

ENGEL, E. O. 1928. 24. Asilidae (part). pp 65–128. *In:* Lindner, E. *Die Fliegen der Paläarktischen Region.* Bd.iv.2. Schweizerbast'sche verlagsbuchhandlung, Stuttgart.

HERMANN, F. 1907. Beitrag zur Kenntnis der Asiliden (III). (Dipt.). *Z. syst. Hymenopt. Dipterol.* **7**: 1–16, 65–78.

HOBBY, B. M. 1939. *Stiphrolamyra comans* sp. n., a new African Asilid (Diptera). *Entomologist's mon. Mag.* **75**: 254–255.

HULL, F. M. 1962. Robber flies of the world. The genera of the family Asilidae. *Bull. U.S. natn. Mus.* **224** (1): 1–430; (2): 431–907.

LEISTNER, O. A. & MORRIS, J. W. 1976. Southern African Place Names. *Ann. Cape Prov. Mus.* **12**: 1–565.

LOEW, H. 1858. Bitrag till kännedomen om Afrikas Diptera (part). *Öfvers. K. VetenskAkad. Förh. Stockh.* **15**: 335–341.

MCALPINE, J. F. 1981. *Manual of Nearctic Diptera.* Volume 1. Chapter 2. Morphology and terminology—Adults. Research Branch Agriculture Canada. Monograph No. **27**: 9–63.

OLDROYD, H. 1974. An introduction to the Robber Flies (Diptera: Asilidae) of southern Africa. *Ann. Natal. Mus.* **22** (1): 1–171.

——— 1980. Asilidae. pp 334–373. *In:* Crosskey, R. W. (ed.) *Catalogue of the Diptera of the Afrotropical Region.* British Museum (Natural History), London.

RICARDO, G. 1925. New species of Asilidae from South Africa. *Ann. Mag. nat. Hist.* (9) **15**: 234–282.

Date received: 16 August 1982.